

A/PRTS

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## DESCRIPTION

METHOD FOR OPTICALLY RECORDING INFORMATION  
AND DEVICE FOR OPTICALLY RECORDINGINFORMATION BY THE SAME

## TECHNICAL FIELD

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MD 3  
6-16-05

*This application is a 371 of PCT/JP00/01589 3/15/2000*

The present invention relates to an optical information recording medium such as an optical disk used for optically recording and reproducing information, a method for recording information and an information recording device in which a test recording is performed prior to recording of an information signal for optimization of recording conditions.

## BACKGROUND ART

15 In recent years, media used for optically recording information have been proposed and developed that include an optical disk, an optical card, and an optical tape. Particular attention has been given to an optical disk as a medium that allows large-capacity and high-density recording and reproduction of information.

20 Among the forms of rewritable optical disks is a phase change optical disk. A recording film used in the phase change optical disk is brought into either an amorphous state or a crystalline state depending on conditions of heating and cooling by a laser beam. There is reversibility between the amorphous state and the crystalline state. The recording film varies in optical constants (refractive index and extinction coefficient) depending on whether the recording film is in the amorphous state or the crystalline state. In the phase change optical disk, these two states are formed selectively on the recording film according to an information signal. As a result of this, optical variations (variations in transmittance or reflectance) are caused and used to perform recording and reproduction of the information signal.

25 In order to obtain the above two states, an information signal is recorded by the following method. A laser beam (power level  $P_p$ ) focused by an optical head is irradiated onto a recording film of an optical disk in a pulse-like state (referred to as a recording pulse). A temperature increased beyond the melting point causes the recording film to melt. The melted portion is cooled rapidly as the laser beam passes therethrough and turned

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